

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

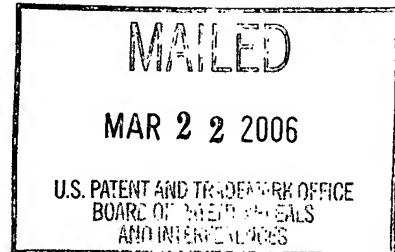
UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DOUGLAS J. HANCHETT,
TUNYAWAT KASEMSUWAN, JOSEPH LIGHT
and AI-TSING TAN

Appeal No. 2006-0295
Application 10/053,926

HEARD: February 23, 2006



Before CAROFF, WARREN and OWENS, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

Decision on Appeal

This is an appeal under 35 U.S.C. § 134 from the decision of the examiner finally rejecting claims 9 through 17 and 19 through 27, all of the claims in the application.

Claims 9, 10, 16, 19, 20 and 26 illustrates appellants' invention of a composition comprising at least the specified sago starch and water, and are representative of the claims on appeal:

9. A composition comprising a sago starch having a water fluidity of from about 40 to about 80 and water.

10. The composition of claim 9 having at least about the same gel strength as a composition comprising 30% more of a comparable WF corn starch.

16. The composition of claim 9, wherein the composition is selected from the group consisting of food products, personal care products, pharmaceuticals, nutraceuticals, paper

products, agricultural products, paints, paper board products, gypsum board products, and textile wrap sizings.

19. A method for increasing the gel strength of a composition comprising adding sago starch having a fluidity of from about 40 to about 80 to the composition.

20. The method of claim 19 wherein the composition has at least about the same gel strength as a composition comprising 30% more of a comparable WF corn starch.

26. The method of claim 19 wherein the composition is selected from the group consisting of food products, personal care products, pharmaceuticals, nutraceuticals, paper products, agricultural products, paints, paper board products, gypsum board products, and textile wrap sizings.

The references relied on by the examiner are:

Park	4,784,871	Nov. 15, 1988
Eden et al. (Eden)	4,874,628	Oct. 17, 1989
Yuan	6,017,388	Jan. 25, 2000
Jeffcoat et al. (Jeffcoat)	6,488,980	Dec. 3, 2002

The examiner has advanced the following grounds of rejection on appeal:

claims 9 and 19 stand rejected under 35 U.S.C. § 102(b) as anticipated by Eden (Office action mailed July 20, 2004 (Office action), page 2);

claims 10 through 15 and 20 through 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Eden (Office action, page 2); and

claims 16, 17, 26 and 27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Eden in view of Jeffcoat, Park or Yuan (Office action, pages 2-3).¹

Appellants argue claims in the following groups: claim 9; claim 19; claims 10 through 15; claims 20 through 25; claims 16 and 17; and claims 26 and 27 (brief, pages 2-6). Thus, we decide this appeal based on appealed claims 9, 10, 16, 19, 20 and 26 as representative of the grounds of rejection and appellants' groupings of claims. 37 CFR § 41.37(c)(1)(vii) (September 2004).

We reverse the ground of rejection of claims 9 and 19 under § 102(b). We affirm the examiner's decision refusing to allow appealed claims 10 through 17 and 20 through 27 based on Eden alone and in view of Jeffcoat, Park and Yuan under § 103(a) because we agree with the examiner's conclusion that the claimed subject matter would have been obvious over the

¹ The examiner states that the grounds of rejection are "set forth in a prior Office Action, mailed on July 6, 2004" (answer, page 3). It is apparent from the record that the grounds of rejection are set forth in the Office action mailed July 20, 2004.

references as applied. However, we designate our affirmance as involving new grounds of rejection pursuant to 37 CFR § 41.50(b) (2005) because we rely on Eden alone and combined with Jeffcoat, Park and Yuan in a manner materially different from that of the examiner, and further include in the new grounds of rejection claims 9 and 19 which were not previously rejected under § 103(a) over Eden, as to which matters appellants have not had an opportunity to respond. *See generally, In re Eyned*, 480 F.2d 1364, 1370-71, 178 USPQ 470, 474-75 (CCPA 1973); Manual of Patent Examining Procedure § 1213.02 (8th ed., Rev. 3, August 2005).

Rather than reiterate the respective positions advanced by the examiner and appellants, we refer to the answer and Office action and to the brief and reply brief for a complete exposition thereof.

Opinion

In order to review the examiner's application of prior art to appealed claims 9, 10, 16, 19, 20 and 26, we first interpret these claims by giving the terms thereof the broadest reasonable interpretation in their ordinary usage in context as they would be understood by one of ordinary skill in the art in light of the written description in the specification unless another meaning is intended by appellants as established in the written description of the specification, and without reading into the claims any limitation or particular embodiment disclosed in the specification.

See, e.g., In re Am. Acad. of Sci. Tech. Ctr., 367 F.3d 1359, 1364, 70 USPQ2d 1827, 1830 (Fed. Cir. 2004); *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989).

The plain language of independent product claim 9 encompasses compositions comprising at least any amount, however small, of any manner of sago starch which has a water fluidity of from about 40 to about 80, and any amount, however small, of water. According to the written description in the specification, the "base material . . . is native sago starch extracted from the pith of the sago palm tree, including high amylose varieties in which at least 40% of the starch is amylose" and "may be modified, either chemically or physically, using techniques known in the art" (page 3, ll. 11-16), including, "without limitation," the chemical and physical modifications set forth at page 3, l. 17, to page 4, l. 2, such as cross-linking, acetylation, esterification, hydroxyethylation, hydroxypropylation, phosphorylation, inorganic esterification,

and thermal-inhibition, wherein the products can be “cationic, anionic, nonionic, and zwitterionic starches, and succinate and substituted succinate derivatives of starch.” The sago starch can be present in any manner of “starch blends” (page 4, l. 3; see also page 4, l. 14). The sago starch and blends containing the same can be subjected to purification processing “by any method known in the art” (page 4, ll. 6-10). At some point, including subsequent to purification, the sago starch and starch blends containing the same are converted into fluidity or thin-boiling starches by “oxidative hydrolysis, acid hydrolysis, enzyme conversion, heat and/or acid dextrinization, or a combination thereof” (page 4, ll. 11-15). The sago starch

is converted to a water fluidity (WF) of from about 40-80 . . . Water fluidity, as used herein, is an empirical test of viscosity measured on a scale of 0-90 wherein fluidity is inversely proportional of viscosity. Water fluidity of starches is typically measured using a Thomas Rotational Shear-Type Viscometer . . . standardized at 30°C with a standard oil having a viscosity of 24.73 cps, which oil requires 23.12±0.05sec for 100 revolutions. . . [A]s conversion increases, the viscosity decreases and the WF values increase. [Specification, page 6, ll. 12-23.]

Thus, claim 9 indeed encompasses any manner of some amount of sago starch which has the specified water fluidity (WF) of from about 40 to about 80, which is in a composition with at least water in view of the transitional term “comprising” which, of course, opens the claim to include compositions containing any manner of additional ingredients, including any manner of starch blends as disclosed in the specification, such as starch blends containing sago starches of lower and higher WF than claimed, as well as any other manner of ingredients, such as, for example, the innumerable ingredients that would be found in the broad range of compositions constituting the kinds of compositions specified in dependent claim 16. *See generally, Exxon Chem. Pats., Inc. v. Lubrizol Corp.*, 64 F.3d 1553, 1555, 35 USPQ2d 1801, 1802 (Fed. Cir. 1995) (“The claimed composition is defined as comprising - meaning containing at least - five specific ingredients.”); *In re Baxter*, 656 F.2d 679, 686-87, 210 USPQ 795, 802-03 (CCPA 1981) (“As long as one of the monomers in the reaction is propylene, any other monomer may be present, because the term ‘comprises’ permits the *inclusion* of other steps, elements, or materials.”).

Dependent claim 10 specifies that the “composition” encompassed by independent claim 9 must have “at least about the same gel strength as a composition comprising 30% more of a

comparable WF corn starch," wherein the "composition," the gel strength of which is determined, is *any* composition within the scope of claim 9, including the compositions in dependent claim 16 as we determined above, regardless of the amount of sago starch falling within the claimed WF range present in the composition. The written description in the specification describes "a *comparable* WF corn starch" (emphasis supplied) as one that has been prepared in the same or different manner than the *compared* sago composition, that is, as disclosed in the specification, the *compared* sago starch and corn starch containing compositions consist only of starch and water (e.g., page 7, ll. 18-21, page 13, ll. 22-24, page 14, l. 12, to page 15, l. 1, page 15, ll. 10-12, page 16, ll. 2-40). No such disclosure is provided where the "sago composition" contains additional ingredients (e.g., specification Examples 7 through 20). In any event, we give the terms of claim 10 the broadest reasonable interpretation in these respects, as requiring a certain gel strength of *any* composition containing *any* amount, however small, of any manner of sago starch having a WF of from about 40 to about 80 or blends containing the same, with water and *any* manner of additional ingredients compared to the same or similar composition which contains a comparable WF corn starch.

Independent method claim 19 and dependent claims 20 and 26, encompass methods comprising at least the step of adding to any manner of composition any amount, however small, of any manner of sago starch of a WF of from about 40 to about 80 or blends containing the same, wherein the compositions can contain any manner of additional ingredients as evinced by claim 26, which compositions have a certain gel strength compared to a composition which differs in the presence of a comparable WF corn starch as required by claim 20, in all of the same respects that we have determined above with respect to appealed claims 9, 10 and 16.

Turning now to the ground of rejection of appealed claims 9 and 19 under § 102(b), it is well settled that the examiner has the burden of making out a *prima facie* case of anticipation in the first instance by pointing out where each and every element of the claimed invention, arranged as required by the claim, is described identically in the reference, either expressly or under the principles of inherency, in a manner sufficient to have placed a person of ordinary skill in the art in possession thereof. *See generally, In re Spada*, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990). It is further well settled that if a reference does not disclose a

specific embodiment which satisfies all of the claim limitations, the reference will nonetheless describe the claimed invention within the meaning of § 102 if it “clearly and unequivocally . . . [directs] those skilled in the art to [the claimed invention] without *any* need for picking, choosing, and combining various disclosures not directly related to each other by the teachings of the cited reference.” *In re Arkley*, 455 F.2d 586, 587, 172 USPQ 524, 526 (CCPA 1972). Whether a reference provides clear and unequivocal direction to the claimed invention is determined on the total circumstances with respect to the disclosure of the reference, *see In re Petering*, 301 F.2d 676, 682, 133 USPQ 275, 280 (CCPA 1962), including “not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom.” *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968); *see also In re Graves*, 69 F.3d 1147, 1152, 36 USPQ2d 1697, 1701 (Fed. Cir. 1995), and cases cited therein (a reference anticipates the claimed method if the step that is not disclosed therein “is within the knowledge of the skilled artisan.”). Such direction is provided to one skilled in the art where the totality of the reference provides a “pattern of preferences” which describes the claimed invention without the necessity for judicious selection from various disclosures thereof. *See In re Sivaramakrishnan*, 673 F.2d 1383, 213 USPQ 441 (CCPA 1982) (“[T]he fact remains that one of ordinary skill informed by the teachings of [the reference] would not have had to choose judiciously from a genus of possible combinations of resin and salt to obtain the very subject matter to which appellant’s composition *per se* claims are directed.”); *In re Schaumann*, 572 F.2d 312, 316-17, 197 USPQ 5, 9-10 (CCPA 1978); *Petering*, 301 F.2d at 681-82, 133 USPQ at 279-80. The claimed range with respect to a particular property characterizing a product must be specifically described in a reference in order for the product or a process utilizing that product to be identically described within the meaning of § 102(b) where the reference does not otherwise disclose a species falling within the range. *Cf. Titanium Metals Corp. of Am. v. Banner*, 778 F.2d 775, 780, 227 USPQ 773, 777 (Fed. Cir. 1985) (“[A]nticipation under § 102 can be found only when the reference discloses exactly what is claimed and that where there are differences between the reference disclosure and the claim, the rejection must be based on § 103 which takes differences into account. D Chisum, *Patents* § 3.02.”).

The examiner sets forth in the Office action with respect to claims 9 and 19, only that Eden, at col. 6, ll. 46-50, and col. 8, ll. 50-65, “discloses a composition including water, a confectionery ingredient and sago starch having a water fluidity (WF) from 10-75” (page 2).

With respect to claim 9, appellants contend that the claimed sago starch is patentable because “it unexpectedly gels to form a strong gel” and “gels more quickly,” relying on specification FIGs. 1-5 (brief, pages 2-3). Appellants point out that Eden discloses converted “corn, potato, sweet potato, rice, sago, tapioca, waxy maze, sorghum, and the like,” at col. 6, ll. 45-49, with “corn, sorghum, and wheat starches . . . preferably used” and “corn starch being the most preferred,” at col. 6, ll. 51-56, and no reference Examples “use a fluidity sago starch” (brief, page 3). On this basis, appellants submit that “Eden teaches away from sago” as claimed which “is up to more than eight times stronger than corn gel” (*id.*). Appellants further contend that Eden “never specifies any WF range in connection with sago” and that “[t]he only mention of water fluidity is in the examples” (*id.*).² Appellants argue that, contrary to the examiner’s position, “the table [of WF values at the bottom of col. 8] is part of the methodology for determining water fluidity” and “shows how to convert viscosity to fluidity numbers from a water fluidity of 10 to 85, and dose not disclose specific water fluidities useful in Eden’s invention” (*id.*). Appellants still further contend that, contrary to the examiner’s position “that gel strength is inherently increased in Eden as a result of using the sago starch disclosed therein, which is a viable alternative to the corn starch,” Eden “does not recognize the superiority of sago starch, but he teaches away from using sago starch and does not actually try sago starch” (*id.*). On this basis, appellants argue that “Eden gives only general guidance and is not at all specific as to the particulars of the claimed invention,” pointing out that Eden lists “eight specific starches” with “any degree of conversion” which “would not render obvious a claim limited to simply a few” compounds, “particularly when such disclosure indicates a preference leading away from the claimed compounds” (*id.*, pages 3-4).

With respect to claim 19, appellants rely on arguments made with respect to claim 9, further contending that “Eden does not increase the gel strength of a composition by the addition

² Contrary to appellants’ position in this line of argument, Eden process claim 6 requires “converted corn starch having a [WF] of about 40-80.”

of a fluidity sago starch . . . but by addition of a high amylose starch,” and thus “the fluidity starch is merely an optional ingredient” (*id.*, page 4).

In response, the examiner maintains that Eden “discloses a preference for using sago starch as a viable alternative to those starches used in the examples” at col. 6, ll. 45-49, and “[i]t is not necessary for [Eden] to recognize that sago starch is superior to other starches” (answer, page 3). The examiner further maintains that Eden “discloses a water fluidity range of 40-80 for ‘converted starches,’” at col. 8, ll. 30-68, and that “the 8 converted starches listed by [Eden] are a very limited number and do not constitute a multitude of compounds that would teach away from selecting sago starch as the starch of choice” (*id.*, pages 3-4; emphasis original). The examiner finds that while Eden “may not recognize that gel strength increases, such a result is obviously apparent since [Eden’s] sago starch has the same physical characteristics, i.e., water fluidity, as” the “claimed starch” (*id.*).

Appellants reply that while Eden discloses eight starches, “any water fluidity may be used,” and thus, eight starches are disclosed “with a water fluidity of 10,” *et seq.*, “which Applicants would consider a multitude” of compounds (reply brief, pages 1-2).

With respect to issues of anticipation, it is not relevant whether a reference teaches away from a claimed invention, *see Celeritas Technologies Ltd. v. Rockwell International Corp.*, 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522 (Fed. Cir. 1998) (“[T]he question whether a reference ‘teaches away’ from the invention is inapplicable to an anticipation analysis.”), or whether an unexpected property is alleged for a claimed product which is not disclosed by a reference for products otherwise reasonably appearing to be chemically identical to claimed product. *See, e.g., Spada*, 911 F.2d at 708-09, 15 USPQ2d at 1657-58. We consider these issues of obviousness under § 103(a) below.

The teachings that one skilled in the art, with respect to issues of anticipation under § 102(b), and that one of ordinary skill in the art, with respect to issues of obviousness under § 103(a), would have found in Eden is central to the issues in this appeal, including the new ground of rejection that we enter below. We agree with the examiner that Eden provides ample direction to fluidity sago starch in Eden to one skilled in this art, finding in this respect that the reference discloses that the “high amylose starches can be used . . . in combination with

converted starches other than high amylose starches (e.g., fluidity corn or sago starches) (col. 5, ll. 54-58).³ Thus, we find as a matter of fact that one skilled in this art would not have had to choose judiciously from a large group of possible complexing agents in order to select “fluidity sago starch” from the small group of fluidity corn starch and fluidity sago starch resulting from the conversion, and even from among the small group of eight starches, taught to be converted to fluidity starches, relied on by the examiner. *See Sivaramakrishnan*, 673 F.2d at 213 USPQ 441; *Schaumann*, 572 F.2d at 316-17, 197 USPQ at 9-10; *Petering*, 301 F.2d at 681-82, 133 USPQ at 279-80.

However, we agree with appellants that the examiner has not established as a matter of fact that one skilled in the art would have found the mere disclosure of the table listing water fluidity values from 10-85 used in connection with the Thomas Rotational Shear-Type Viscometer taken from a description in another United States Patent by Eden (col. 8, l. 28, to col. 9, l. 13) to constitute a description of a sago starch having a WF in the claimed range or of the claimed range. Thus, the claimed sago starch of appealed claims 9 and 19 is not identically described in Eden within the meaning of § 102(b). *See Titanium Metals*, 778 F.2d at 781, 227 USPQ at 778.

Accordingly, in the absence of an established *prima facie* case of anticipation, we reverse the sole ground of rejection of claims 9 and 19 under 35 U.S.C. § 102(b).

Pursuant to 37 CFR § 41.50(b) (2005), we enter a new ground of rejection of claims 9 through 15 and 19 through 25 under 35 U.S.C. § 103(a) as unpatentable over Eden, and a new ground of rejection of claims 9, 16, 17, 19, 26 and 27 under 35 U.S.C. § 103(a) as unpatentable over the combined teachings of Eden, Jeffcoat, Park and Yuan. These grounds of rejection are appropriate even though we reversed the ground of rejection under § 102(b). This is because Eden can be applied “as evidence of obviousness under § 103 for all it fairly suggests to one of

³ It is well settled that a reference stands for all of the specific teachings thereof as well as the inferences one of ordinary skill in this art would have reasonably been expected to draw therefrom, *see In re Fritch*, 972 F.2d 1260, 1264-65, 23 USPQ2d 1780, 1782-83 (Fed. Cir. 1992); *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968), presuming skill on the part of this person. *In re Sovish*, 769 F.2d 738, 743, 226 USPQ 771, 774 (Fed. Cir. 1985).

ordinary skill in the art.” *See In re Wiggins*, 488 F.2d 538, 543, 179 USPQ 421, 425 (CCPA 1973).

We find that Eden would have disclosed to one of ordinary skill in this art a method of preparing cast jelly gum confections which can contain a converted starch other than a high amylose starch, such as “e.g., fluidity corn or sago starches,” wherein “[c]onverted starches, commonly referred to as fluidity or thin-boiling starches, are starches whose molecular weight has been reduced by mild acid hydrolysis or enzyme conversion” (e.g., col. 2, ll. 54-61, col. 3, ll. 54-58, and col. 5, l. 66, to col. 6, l. 27). We note here that these conversion methods are essentially the same as disclosed by appellants in the written description in the specification as we found above, and Eden employs the same method for determining WF as appellants (e.g., col. 8, l. 28, to col. 9, l. 12). Eden would have further disclosed “that the degree of conversion, as indicated by water fluidity, is affected by the amount of acid or enzyme used as well as the time and temperature,” wherein “[t]he conversion conditions should be adjusted to provide an appropriate water fluidity,” and “[t]he . . . conversion procedures are conventional and well-known to those skilled in the art” (col. 6, ll. 28-32 and 57-62). Eden would have taught that “the second starch component (typically a fluidity corn starch) is *blended* with the pregelatinized starch or *separately added* to the confectionary formulation without prior cooking,” wherein “[t]he converted starches preferred for use in combination with the pregelatinized high amylose starches are prepared from starch bases other than high amylose starches, such as corn, potato, sweet potato, rice, sago, tapioca, waxy maize, sorghum, or the like,” and “[t]he converted starches referred to as thin-boiling confectioner’s cooking starches, which include acid-hydrolyzed or oxidized corn, sorghum, and wheat starches having amylose contents of about 25-35% amylose, are preferably employed in the blend, with the acid-hydrolyzed corn starch being most preferred” (col. 6, ll. 34-56; emphasis supplied).

The Eden Examples illustrate the preparation of confectionaries using starch blends and confectionary compositions with fluidity corn starches of 65 WF (Examples I, II, IV through VI and VIII through X) and 75 WF (Example III). As we pointed out (*see above* note 2), Eden claim 6 encompasses a process using “converted corn starch having a water fluidity of about 40-80.”

Based on this substantial evidence, we determine that, *prima facie*, one of ordinary skill in this art routinely following the teachings of Eden would have reasonably arrived at fluidity sago starch contained in compositions prepared during conversion, in blends with high amylose starches and in confectionary compositions, wherein the fluidity sago starch has WF values falling within the claimed range of such values, as specified in representative appealed claims 9, 10, 16, 19, 20 and 26. Indeed, the disclosure of Eden would have reasonably motivated this person to convert sago starch into fluidity sago starch having a WF in the ranges disclosed for fluidity corn starch by following the teachings of the reference with respect to fluidity corn starch in the Examples and in Eden claim 6, as the reference clearly would have suggested the use of fluidity sago starch in place of fluidity corn starch (col. 5, ll. 56-58, and col. 6, ll. 45-50), even though an example of a specific fluidity sago starch is not disclosed by Eden, in the reasonable expectation of obtaining compositions containing fluidity sago starch that can be used for the purposes of Eden. *See generally, Merck & Co., Inc. v. Biocraft Labs., Inc.*, 874 F.2d 804, 807, 10 USPQ2d 1843, 1845-46 (Fed. Cir. 1989) (“That the ‘813 patent discloses a multitude of effective combinations does not render any particular formulation less obvious. This is especially true because the claimed composition is used for the identical purpose. [Citations omitted.]”); *see also In re Lamberti*, 545 F.2d 747, 750, 192 USPQ 278, 280 (CCPA 1976) (“The fact that neither of the references expressly discloses asymmetrical dialkyl moieties is not controlling; the question under 35 USC 103 is not merely what the references expressly teach, but what they would have suggested to one of ordinary skill in the art at the time the claimed invention was made.”). Furthermore, the disclosure of a WF range for fluidity corn starch would have reasonably suggested to one of ordinary skill in this art that a similar workable or optimum WF range for fluidity sago starch can be obtained by routine experimentation. *In re Aller*, 220 F.2d 454, 456-58, 105 USPQ 233, 235-37 (CCPA 1955) (“[W]here general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.”).

We are mindful that Eden does not disclose the gel strength of any composition containing a fluidity sago starch, or of compositions containing any other fluidity starch, vis-à-vis “a comparable WF corn starch,” as required by claims 10 and 20. However, the silence of a

reference with respect to a particular property of compositions disclosed therein which otherwise reasonably appear to be identical to those claimed as we have found above, does not alone distinguish the claimed fluidity sago starch containing compositions from those taught by the reference. *See In re Skoner*, 517 F.2d 947, 950, 186 USPQ 80, 82 (CCPA 1975) (“Appellants have chosen to describe their invention in terms of certain physical characteristics . . . Merely choosing to describe their invention in this manner does not render patentable their method which is clearly obvious in view of [the reference]. [Citation omitted.]”).

Thus, the burden falls on appellants to establish by effective argument and/or objective evidence establishing that the claimed sago starch containing compositions patentably distinguish the sago starch containing compositions taught by Eden even though the rejection is based on § 103(a). *See In re Woodruff*, 919 F.2d 1575, 1577-78, 16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990) (“The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. [Citations omitted.] These cases have consistently held that in such a situation, the applicant must show that the particular range is *critical*, generally by showing that the claimed range achieves unexpected results relative to the prior art range. [Citations omitted.]”); *In re Best*, 562 F.2d 1252, 1255-56, 195 USPQ 430, 433-34 (CCPA 1977) (“Where, as here, the claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his claimed product. See *In re Ludtke*, [441 F.2d 660, 169 USPQ 563 (CCPA 1971)]. Whether the rejection is based on ‘inherency’ under 35 USC 102, on ‘prima facie obviousness’ under 35 USC 103, jointly or alternatively, the burden of proof is the same, and its fairness is evidenced by the PTO’s inability to manufacture products or to obtain and compare prior art products. [Footnote and citation omitted.]”); *Skoner*, 517 F.2d at 950-51, 186 USPQ at 82-83; *Aller*, 220 F.2d at 456-58, 105 USPQ at 235-37; cf. *Spada*, 911 F.2d at 708-09, 15 USPQ2d at 1657-58 (Fed. Cir. 1990) (“The Board held that the compositions claimed by Spada ‘appear to be identical’ to those described by Smith. While Spada criticizes the usage of the word ‘appear’, we think that it was reasonable for the PTO to infer that the polymerization

by both Smith and Spada of identical monomers, employing the same or similar polymerization techniques, would produce polymers having the identical composition.”).

In the absence of such argument and/or evidence, it reasonably appears with respect to claims 10 and 20 that appellants have merely elucidated the mechanism as well as identified a new benefit of an old process, and discovered a new property of a product known in the prior art, which will not render the old process and old product again patentable. *See, e.g., Spada*, 911 F.2d at 707, 15 USPQ2d at 1657; *Woodruff*, 919 F.2d at 1577, 16 USPQ2d at 1936; *Titanium Metals*, 778 F.2d at 782-83, 227 USPQ at 779; *W.L. Gore & Assocs. v. Garlock, Inc.*, 721 F.2d 1540, 1548, 220 USPQ 303, 309 (Fed. Cir. 1983); *Skoner*, 517 F.2d at 950, 186 USPQ at 83 (CCPA 1975).

Furthermore, with respect to claims 9, 16, 19 and 26, we determine in similar manner to the examiner (Office action, pages 2-3) that, *prima facie*, one of ordinary skill in this art would have found in the combined teachings of Eden, Jeffcoat, Park and Yuan the suggestion to use the converted sago starch containing compositions taught by Eden, as we found above, as the starch ingredient in the yogurt compositions of Jeffcoat (e.g., col. 1, ll. 20-26, col. 4, ll. 23-34, and Examples 1 and 5), Park (e.g., col. 2, ll. 16-22, and Example 1) and Yuan (e.g., col. 2, ll. 35-42, col. 3, ll. 35-55), in the reasonable expectation of obtaining yogurt compositions having the properties taught by the references, and particularly in view of the teaching in Yuan that sago starch can be used for this purpose. *See generally, In re Corkill*, 771 F.2d 1496, 1497-1500, 226 USPQ 1005, 1006-08 (Fed. Cir. 1985); *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980); *In re Skoll*, 523 F.2d 1392, 1397-98, 187 USPQ 481, 484-85 (CCPA 1975); *In re Castner*, 518 F.2d 1234, 1238-39, 186 USPQ 213, 217 (CCPA 1975); *In re Lintner*, 458 F.2d 1013, 1015-16, 173 USPQ 560, 562-63 (CCPA 1972); *see also In re O'Farrell*, 853 F.2d 894, 903-04, 7 USPQ2d 1673, 1680-81 (Fed. Cir. 1988) (“Obviousness does not require absolute predictability of success. . . . There is always at least a possibility of unexpected results, that would then provide an objective basis for showing the invention, although apparently obvious, was in law nonobvious. [Citations omitted.] For obviousness under § 103, all that is required is a reasonable expectation of success. [Citations omitted.]”); *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981)(“The test for obviousness is not whether the features of a

secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.”).

Accordingly, since we have established a *prima facie* case of obviousness under § 103(a) over the teachings of Eden alone and as combined with Jeffcoat, Park and Yuan, the burden of going forward has shifted to appellants to submit argument and/or evidence in rebuttal.

See generally, In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984).

We have considered here the arguments raised by appellants with respect to Eden set forth with respect to the ground of rejection under § 102(b) in the brief and reply brief, which we considered above, which arguments appellants further rely on with respect to the claims 10 and 20 (brief, page 4). We are not convinced by appellants’ arguments that one of ordinary skill in this art routinely following the teachings of Eden would not arrive at a variety of compositions containing the claimed sago starch in the claimed WF range encompassed by the broad range of compositions encompassed by these claims as we have interpreted them above. Furthermore, we found above that Eden would have reasonably disclosed fluidity sago starch containing compositions as claimed even though the reference does not contain an example to such starch or compositions containing the same. Indeed, we find no disclosure in Eden which would have taught away from sago starch containing compositions as claimed. This is because Eden does not contain any disclosure which criticizes, discredits or otherwise discourages forming fluidity sago starch, and particularly suggests that the same can be prepared and used in the same manner as fluidity corn starch. *See In re Fulton*, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1145-46 (Fed. Cir. 2004).⁴

⁴ See also *In re Gurley*, 27 F.3d 551, 552-53, 31 USPQ2d 1130, 1131-32 (Fed. Cir. 1994) (“A reference may be said to teach away when a person of ordinary skill, upon reading the reference would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant. The degree of teaching away will of course depend on the particular facts; in general, a reference will teach away if it suggests that the line of development flowing from the reference’s disclosure is unlikely to be productive of the result sought by the applicant. [Citations omitted.]”).

Appellants further argue, with respect to claims 16 and 26, that Jeffcoat and Park do not disclose sago starch, and that Yuan discloses sago starch but does not disclose a WF range therefor, and submit that “Eden does not use the same sago starch as claimed” and would not have suggested that the starches used therein “are useful in any application other than gum confections” (brief, pages 4-5). However, appellants’ arguments are based on the contention that Eden would not have disclosed the claimed sago starch containing compositions which do not address our findings with respect to this reference above.

Appellants rely in the brief and reply brief on evidence in specification Examples 5 and 6 in which compositions consisting of a fluidity starch and water, wherein the starches are converted by the process of specification Example 1, are compared with respect to gel strength and viscosity at different WF, time and temperature, with the results graphically reported in specification FIGs. 1-5. It is well settled that the burden of establishing the significance of data in the record with respect to unexpected results rests with appellants, which burden is not carried by mere arguments of counsel. *See generally, Geisler*, 116 F.3d at 1470, 43 USPQ2d at 1365-66; *In re Merck*, 800 F.2d 1091, 1099, 231 USPQ 375, 381 (Fed. Cir. 1986); *In re Longi*, 759 F.2d 887, 897, 225 USPQ 645, 651-52 (Fed. Cir. 1985); *In re Klosak*, 455 F.2d 1077, 1080, 173 USPQ 14, 16 (CCPA 1972); *In re Lindner*, 457 F.2d 506, 508, 173 USPQ 356, 358 (CCPA 1972) (“This court has said . . . that mere lawyers’ arguments unsupported by factual evidence are insufficient to establish unexpected results. [Citations omitted.]”); *In re D’Ancicco*, 439 F.2d 1244, 1248, 169 USPQ 303, 306 (1971). Appellants have not carried this burden on this record.

We fail to find in the record any explanation or evidence establishing that the evidence in the specification constitutes a comparison between the claimed sago starch containing compositions encompassed by the appealed claims, as we have interpreted them above, and the teachings of Eden, which we found above, that reflects the thrust of the rejections based on this reference. *See e.g., Baxter Travenol Labs., supra* (“[W]hen unexpected results are used as evidence of nonobviousness, the results must be shown to be unexpected compared with the closest prior art. [Citation omitted.]”); *In re Burckel*, 592 F.2d 1175, 1179-80, 201 USPQ 67, 71 (CCPA 1979) (the claimed subject matter must be compared with the closest prior art in a manner which addresses the thrust of the rejection). Indeed, in the absence of such evidence or

explanation, we find that the evidence based on compositions not established to represent Eden constitutes no more than a showing of the properties of the claimed compositions *per se*, see *In re Hoch*, 428 F.2d 1341, 1343-44, 166 USPQ 406, 409 (CCPA 1970) (evidence must provide an actual comparison of the properties of the claimed compositions with compositions of the reference), and that even if the evidence is held to establish the patentability of the particular claimed sago starch containing compositions tested, the same is simply not commensurate with the scope of the claimed sago starch containing compositions encompassed by the claims and the range of compositions taught by Eden. See generally, *In re Kulling*, 897 F.2d 1147, 1149-50, 14 USPQ2d 1056, 1058 (Fed. Cir. 1990); *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 778-79 (Fed. Cir. 1983); *In re Clemens*, 622 F.2d 1029, 1035-36, 206 USPQ 289, 295-96 (CCPA 1980); *In re Kerkhoven*, 626 F.2d at 851, 205 USPQ at 1072-73; *In re Dill*, 604 F.2d 1356, 1361, 202 USPQ 805, 808-09 (CCPA 1979); *In re Greenfield*, 571 F.2d 1185, 1189, 197 USPQ 227, 230 (CCPA 1978); *Lindner*, 457 F.2d at 508, 173 USPQ at 358.

Accordingly, having reconsidered the evidence of obviousness in Eden alone and as combined with Jeffcoat, Park and Yuan with appellants' arguments and evidence of nonobviousness, including consideration of the objective evidence in the specification in light of appellants' arguments in the brief and reply brief, which pertain to the new grounds of rejection that we have entered above, we remain of the opinion that the claimed compositions and methods encompassed by claims 9 through 17 and 19 through 27 are *prima facie* obvious over the applied prior art. Thus, the burden of going forward with respect to this ground of rejection remains with appellants. See generally, *Oetiker*, 977 F.2d at 1445, 24 USPQ2d at 1444; *Piasecki*, 745 F.2d at 1472, 223 USPQ at 788.

The examiner's decision is affirmed-in-part, and we have entered a new ground of rejection pursuant to our authority under 37 CFR § 41.50(b) (2005).

This decision contains a new ground of rejection pursuant to 37 CFR § 41.50(b) (2005).

37 CFR § 41.50(b) provides “[a] new ground of rejection shall not be considered final for purposes of judicial review.”

37 CFR § 41.50(b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

- (1) *Reopen prosecution.* Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceedings will be remanded to the examiner. . . .
- (2) *Request rehearing.* Request that the application be reheard under § 41.52 by the Board upon the same record. . . .

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv) (2005).

AFFIRMED-IN-PART

37 CFR 41.50(b)

Marc L. Caroff
MARC L. CAROFF

MARC L. CAROFF
Administrative Patent Judge


CHARLES E. WARREN

CHARLES F. WARREN
Administrative Patent Judge

Terry J. Owens
TERRY J. OWENS
Administrative Patent Judge

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Appeal No. 2006-0295
Application 10/053,926

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